

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An optical network which is formed by a plurality of optical network transmission apparatuses (~~11-15~~) and a plurality of transmission lines (~~21-25~~) that connect the optical network transmission apparatuses, characterized in that

each optical network transmission apparatus comprises

advertisement means (~~421~~) for autonomously advertising a usable wavelength in a transmission line connected to the apparatus, and

collection means (~~422~~) for autonomously collecting a usable wavelength in a transmission line that is advertised by another apparatus.

2. (Original) A network according to claim 1, wherein said advertisement means comprises notification means for notifying another apparatus adjacent to the apparatus of the usable wavelength in the transmission line connected to the apparatus and the usable wavelength in the transmission line that is collected by said collection means.

3. (Currently Amended) A network according to claim 1, wherein the optical network transmission apparatus further comprises route calculation means (~~113~~) for calculating a route of an optical path on the basis of the usable wavelength in the transmission line connected to the apparatus and the usable wavelength in the transmission line that is collected by said collection means.

4. (Currently Amended) A network according to claim 1, wherein the optical network transmission apparatus comprises

wavelength management means ~~(111)~~ for managing the usable wavelength in the transmission line connected to the apparatus, and

wavelength update means ~~(114)~~ for updating the usable wavelength managed by said usable wavelength management means when an optical path is set in the transmission line connected to the apparatus.

5. (Currently Amended) An optical network transmission apparatus ~~(11)~~ in which the apparatus ~~(11)~~ and other adjacent apparatuses ~~(12, 15)~~ are connected by transmission lines ~~(21, 25)~~, characterized by comprising:

advertisement means ~~(121)~~ for autonomously advertising usable wavelengths in the transmission lines connected to the apparatus; and

collection means ~~(122)~~ for autonomously collecting usable wavelengths in transmission lines ~~(22, 24)~~ that are advertised by said other apparatuses.

6. (Original) An apparatus according to claim 5, wherein said advertisement means comprises notification means for notifying said other apparatuses of the usable wavelengths in the transmission lines connected to the apparatus and the usable wavelengths in the transmission lines that are collected by said collection means.

7. (Currently Amended) An apparatus according to claim 5, further comprising route calculation means ~~(113)~~ for calculating a route of an optical path on the basis of the usable

wavelengths in the transmission lines connected to the apparatus and the usable wavelengths in the transmission lines that are collected by said collection means.

8. (Currently Amended) An apparatus according to claim 1, further comprising:

wavelength management means (~~111~~) for managing the usable wavelengths in the transmission lines connected to the apparatus; and

wavelength update means (~~114~~) for updating the usable wavelengths managed by said usable wavelength management means when an optical path is set in the transmission lines connected to the apparatus.

9. (Currently Amended) A distributed routing control method in an optical network which is formed by a plurality of optical network transmission apparatuses (~~11-15~~) and a plurality of transmission lines (~~21-25~~) that connect the optical network transmission apparatuses, characterized by comprising the step (~~82~~) of causing each optical network transmission apparatus to autonomously advertise a usable wavelength in a transmission line connected to the apparatus, and autonomously collect a usable wavelength in a transmission line that is advertised by another apparatus.

10. (Original) A method according to claim 9, wherein the advertisement step comprises the step of notifying another apparatus adjacent to the apparatus of the usable wavelength in the transmission line connected to the apparatus and the collected usable wavelength in the transmission line.

11. (Currently Amended) A method according to claim 9, further comprising the step (S3, S4) of calculating a route of an optical path on the basis of the usable wavelength in the transmission line connected to the apparatus and the collected usable wavelength in the transmission line.

12. (Currently Amended) A method according to claim 9, further comprising:

the step (S5) of setting an optical path along a route obtained by route calculation; and

the step (S6) of updating the usable wavelength in the transmission line connected to the apparatus.

13. (Currently Amended) A machine-readable recording medium which records a program of a distributed routing control method in an optical network which is formed by a plurality of optical network transmission apparatuses (11-15) and a plurality of transmission lines (21-25) that connect the optical network transmission apparatuses, characterized in that the ~~recording medium records a program for executing~~ executes a process (S2) of autonomously advertising a usable wavelength in a transmission line connected to each apparatus, and autonomously collecting a usable wavelength in a transmission line that is advertised by another apparatus.

14. (Original) A medium according to claim 13, wherein the program executes, as the advertisement process, a process of notifying another apparatus adjacent to the apparatus of the usable wavelength in the transmission line connected to the apparatus and the collected usable wavelength in the transmission line.

15. (Currently Amended) A medium according to claim 13, wherein the program further executes a process (~~S3~~, ~~S4~~) of calculating a route of an optical path on the basis of the usable wavelength in the transmission line connected to the apparatus and the collected usable wavelength in the transmission line.

16. (Currently Amended) A medium according to claim 13, wherein the program further executes

a process (~~S5~~) of setting an optical path along a route obtained by route calculation, and

a process (~~S6~~) of updating the usable wavelength in the transmission line connected to the apparatus..